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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,426	07/26/2001	Martin Kessler	1703	6991

7590

09/30/2003

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EXAMINER

DUDA, RINA I

ART UNIT

PAPER NUMBER

2837

DATE MAILED: 09/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

RF

Office Action Summary

Application No.

09/915,426

Applicant(s)

KESSLER ET AL.

Examiner

Rina I Duda

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8 and 10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8 and 10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/18/03 has been entered.

As stated in advisory action dated 8/20/03 the communication dated 6/18/03 did not address all the issues raised in the final office action dated 3/10/03, the USC 112 first paragraph rejection of claim 7 was ignored. Therefore, said the 112 first paragraph rejection would be presented in this communication again. Furthermore, as stated in the previous communications, the applied prior art discloses all the structural limitations as claimed.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. The specification (detailed description of the invention) is objected under 35 U.S.C. 112, first paragraph, for not supporting the claimed subject matter. The new added claim 7 recite a plurality of comparators associated with each phase and an OR-circuit for comparing a phase voltage with a reference voltage. But, the detailed

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description of the invention describes the plurality of comparators as the means responsible for comparing the phase branch voltage to a reference voltage.

2. Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The detailed description of the invention as described in the previous paragraph of this office action does not support that an OR-circuit compares a phase branch voltage to a reference voltage, that is a function performed by the plurality of comparators.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "OR-circuit" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. The drawing correction submitted on 6/18/03 is disapproved because it does not support the original description of the invention and the claims.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 6, 7, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Schwarz (US Patent 4978895), of record.

Claim 1, Schwarz teaches an apparatus/method for determining the position of a sensorless direct current motor comprising a direct current motor 20 including a plurality of inductivities L1, L2, and L3 arranged in corresponding phases 21, 22, and 23, said inductivities induce alternating voltages V1, V2, and V3 in the motor windings, as shown in figure 3 (first three graphs); and a rotor position detecting circuit 30 which includes a plurality of resistances 51, 52, 54, 55, 57, and 58 and a plurality of comparator components 59, 60, and 61, wherein the resistances and the comparators are located in phase branches as shown in figure 5 and described in column 3 lines 16-58.

Claim 6, Schwarz describes the output of the comparators 59, 60, and 61 connected to a common output element 70.

Claims 7 and 10, the only difference between claim 1 and claim 7 is the recitation of an OR-circuit for comparing a voltage from the phase that will be controlled to a reference voltage in a reference branch. But, as stated in the arguments dated 6/18/03 and the proposed drawing correction of figure 4 filed the same date, the comparators form the OR-circuit, therefore Schwarz discloses a plurality of inductivities, the plurality of resistors, and the plurality of comparators.

6. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Kokami et al (US Patent 5818179), of record.

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Kokami et al teach a brushless motor drive circuit comprising a plurality of inductivities Lu-Lw that induce alternating voltages in the motor windings; a plurality of resistors R1-R6 located in the motor phase branches; and means 1u-1w for comparing a voltage of a phase branch to a reference voltage Vn prior to entering the phase compensation means 2u-2w.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarz (US Patent 4978895), of record and applicant's admission of prior art (figure 3).

Claim 3, Schwarz as described above, teaches a method/apparatus for determining the position of a sensorless direct current motor comprising a motor, which includes inductivities L1-L3 that induce alternating voltages in the motor windings; a plurality of resistances 51, 52, 54, 55, 57, and 58; and a pluralities of comparators 59, 60, and 61, wherein the resistances and the comparators are located in the phase branches. But, Schwarz fails to disclose a non-selected phase branch including a transistor connected to a reference potential.

However, figure 3 (applicant's admission of prior art) describe all phase branches including a transistor 17 connected to a reference potential for selecting the phase

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branch to be evaluated. Therefore, it would have been obvious to one of ordinary skill in the art to connect a transistor to the phase branches, since the transistor will provide a less expensive alternative for selecting the un-energized phase branch that will be used to evaluate the position of the motor, as described on pages 3-5, page 12 lines 10-19, and page 13 lines 1-4.

Claim 4, applicant describes in different portions of the specification (page 3-5, page 12 lines 10-19, page 13 lines 1-4, and figure 3) that the prior art uses either a pass series transistor or a field effect transistor connected to each of the phase branches (selected or non-selected).

Claim 5, the difference between the subject matter of claim 5 and the teachings of Schwarz is that claim 5 recites a resistor and a transistor connected to each of the phase branches. However, figure 3 of applicant's admission of prior art describes a device for position determination comprising a plurality of phase branches, wherein each of the phase branches includes a transistor 17 and a resistor R2 for selecting the un-energized phase branch and regulating the induced voltage respectively. Therefore, it would have been obvious to one person of ordinary skill in the art to connect a transistor to each of the phase branches, since the transistor will provide a less expensive alternative for selecting the un-energized phase branch that will be used to evaluate the position of the motor; and connect a resistor to the phase branches, since the resistor will help match the corresponding induced voltage of the selected phase to the input of the comparator, as described on pages 3-5, page 12 lines 10-19, and page 13 lines 1-4.

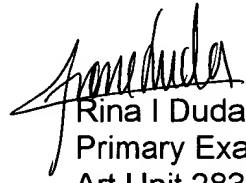
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9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The documents cited specially US Patent Murakami et al also anticipates the subject matter of claim 8.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rina I Duda whose telephone number is 703-305-0722.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached at 703-308-3370. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Rina I Duda
Primary Examiner
Art Unit 2837

RD